

UNIVERSAL CONVERSION SERVER

Background Of The Invention

5 The present invention relates to computer systems. More specifically, the invention relates to methods and systems for allowing a computer to work with input data that is in a format nominally incompatible with the computer.

10 Many forms of computer operating systems, hardware applications exist today, such as Macintosh, IBM, Intel, Dell, etc. A common problem among computer users today, is the difficulties and inconveniences caused by using, or trying to use, data from one operating system on a different operating system. For example, if a person receives through e-mail an application that was in a Macintosh format, that person may not be able to run the application if they have a Dell computer.

20 A commonly used solution for this problem is a filter that is located in the application and that allows certain files to be formatted to another type of application. This solution is inconvenient, however, because it is very difficult to find all the types of filters that would be needed so that every type of file could be used. For example, Microsoft Word file formatted to WordPro file or format file from one version of application to another. Simulation of one operating system in another operating system. For example, DOS is simulated in the Unix operating system.

Another solution is to use a "Universal Driver Server" patent application no. 09/564,619 filed May 4, 2000, that can transform almost any file through a server. For example, if a person receives a game that is compatible only for Macintosh, and the person owns an Intel computer, then that person may go on the Internet to look for the same game in a format that is compatible to their own operating system. This solution works in some cases, but very often, similar software is not found.

#### Summary Of The Invention

An object of this invention is to provide a procedure that allows a person to use data, from one computer operating system, in a computer having a different operating system.

Another object of the present invention is to provide a universal server online that is able to transform fully any type of file.

Another object of the present invention is to convert file from one application format or version to another.

These and other objectives are attained with a method and system for re-formatting computer files. The method comprises the steps of inputting a data file into a computer, and determining if the data file is compatible with the computer. If the data file or application program is not compatible with the computer or application, the data file or program is transmitted over the Internet to a universal server; and the universal



## Brief Description Of The Drawings

5 Figure 1 is a general block diagram illustrating a universal conversion server embodying this invention.

Figure 2 is an example of a database that is used by the universal server of Figure 1.

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Figure 3 generally illustrates a procedure for reformatting a program.

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Figure 4 is a flow chart of a preferred universal conversion system.

## Detailed Description Of The Preferred Embodiments

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Figure 1 shows the general block scheme of a universal conversion server. In this service, a network 100 is connected to a computer 101, which may be a personal computer. The computer is connected to a microphone 102 and to a keyboard 103. The computer also has the appropriate driver 110. Voice commands or input are given through the microphone, typed commands are given through the keyboard, and the driver is used to transmit data to disks and compact disks.

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Sub ~~X7~~ If, for example, a person may receive data from the Internet in the form of voice data, the person may want to compress the data into another format because the person may not have a compatible driver. In this case,



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following. First, it defines what type of data it received (audio, video etc.). It can define the type of data using different methods. Some of these methods are described in a patent application serial no. 09/137,966. After the UCS defined the type of data and in which operational system (OS) it was formatted it checks what OS is used in the computer 101 and what applications are available in 101 to process this type of data. If the UCS finds that there is some application in the computer that can process this type of data but that the data was initially formatted to be processed by a different application, then the UCS sends the data to an appropriate formatting server with the request to reformat it to the application that is available in the computer 101. For example, if the UCS received a textual data that was formatted for Microsoft word and if the UCS found that the user computer 101 has only Word Pro application, than the UCS sends the textual data to a text formatting server 120 and requests to reformat it from Microsoft Word format to Word Pro format. Similarly the UCS reformat data to the OS system that is used by the user computer 101.

The Universal conversion server is also connected to the Universal Driver 109. The Universal Driver patent application performs some of the conversion operations.

The Universal Driver 109 can be used to read data from a local computer drivers. The Universal Driver is described in the attorney docket 13441. For example, instead of sending data from the computer 101 to the UCS 104 the user requests the UCS to read the data from his



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the program (e.g. game) that was received from the user  
computer 101 or that is stored on the disk in the user  
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computer 101 or that is stored on the disk in the user  
5 computer (e.g. floppy disk) (that is accessible from the  
Universal Driver 109). Usually programs that people use  
in computers are compiled from some source code. The  
same source code can be used to compile a source code to  
different OS. If the UCS finds the source code in 110  
10 from which the program was compiled, the UCS used a  
module 111 to adapt the source code for compilation in OS  
that is in the computer 101. Usually, only small  
modifications are needed to adapt a source code for  
compilation to a different operation system. For  
15 example, if the source code was done for compilation in  
UNIX and it is necessary to compile a source code in NT,  
then should change formats for integers. After the  
source code is adapted in 111 for a different compiler it  
is compiled using a suitable compiler from the set of  
20 compilers in 112. Then a new compiled program (e.g.  
game) is sent to the user computer 101.

Figure 2 describes what needs to be done with the data  
that are given to the Universal Server. Table 200 shows  
25 the user requirements. At 201, the user manually enters  
all the data. For example, at 202, the user states what  
needs to be converted. Row 203 shows any text that must  
be converted into Microsoft Word, row 204 shows all the  
audio files that need to be converted into WAVE files,  
30 and row 205 shows the compressed text that needs to be  
converted into post script format. When data needs to be



converted, the data are sent to the Universal Formatting Server.

The Universal Conversion Server checks the User Requirements 200. If this Conversion Server finds that it cannot convert a certain file, it looks in a computer description 206. This computer description can be located on the computer 101 or on the Universal Conversion Server Database. The actual computer description 207 includes four components: row 208 shows the operating system, in this case it is NT; row 209 shows the type of computer, here it is Intel; row 210 shows what driver is being used; and row 211 shows the word processor that is being used. The computer description system is read from a special system file that is located on a computer 115.

Figure 3 explains what needs to be done when a computer's operating system is not compatible with a program. First, the name of the program is read by the Universal Driver. It was explained above that the Universal Driver can read the name of the program and check whether such program is available for a different operating systems. If not, Universal Driver sends the program to the UCS which searches for the source code in order to compile the program. Table 300 shows the features associated with the program. 301 is the link to the program's source code, 302 is the program's executable code, and 303 is the programs's file name. These data are searched in the database of source codes 110, where many source codes are held. If the same name exists among more than one program in the database, the UCS reads the

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executable, then, as represented by steps 408 and 409, the routine checks the Universal Driver to determine whether the program can be replaced on the Universal Driver. Copending patent application no. \_\_\_\_\_

5 (Attorney Docket No. 13441) describes a suitable Universal Driver that can be used in the practice of this invention.

10 If the program can be so replaced, then, at step 410, the program is replaced at the Universal Driver; and then, at step 411, the program is are sent to the user. If, however, at step 409, the program can not be replaced at the Universal Driver, then the routine proceeds to step 412, where the UCS checks to determine if the source code exists on the storage of source code 110. If the source code does not exist, the routine exits. If the source code exists, then the program is recompiled, at step 413, in a new OS (using 108), and then the program is sent to the user.

20 At step 414, the routine checks for instructions to format data. First, it check the user instructions. If they are absent, it checks the computer menu instructions. After that, data are formatted, at step 415, according to the instructions, and then the data are sent to the user.

30 While it is apparent that the invention herein disclosed is well calculated to fulfill the objects stated above, it will be appreciated that numerous modifications and embodiments may be devised by those skilled in the art, and it is intended that the appended claims cover all

such modifications and embodiments as fall within the true spirit and scope of the present invention.

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